

REMARKS

Applicants thank the Examiner for the thorough examination given the present application.

Status of the Claims

Claims 9 and 12-16 will be pending in the above-identified application upon entry of the present amendment. Claims 9 and 12 have been amended. Support for the recitations in claim 9 can be found in the present specification, *inter alia*, at page 24, lines 5-6 as well as in claims 10-11 as originally filed. As such, claims 10-11 have been cancelled herein. Claims 1-8 have also been cancelled herein. Claim 12 has been amended to depend from claim 9. Thus, no new matter has been added. Based upon the above considerations, entry of the present amendment is respectfully requested.

In view of the following remarks, Applicants respectfully request that the Examiner withdraw all rejections and allow the currently pending claims.

Issues under 35 U.S.C. § 112, Second Paragraph

Claims 1-16 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claims 1-8 and 10-11 have been cancelled herein, which renders the rejection moot as to these claims. With respect to the remaining claims, Applicants respectfully traverse in view of the amended claims.

The Examiner asserts that the process steps of claim 9 are unclear because it is not understood how the term “for” further limits the process steps. Claim 9 has been amended to replace the term “for” with the term “of.” This is a non-narrowing claim amendment. As such, Applicants respectfully submit that this amendment overcomes the outstanding rejection and that the rejection should be removed.

Issues over the Cited References

1) Claims 1-8 are rejected under 35 U.S.C. § 102(b) or (e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over any one of Yanagisawa et al. '006 (US 2003/0088006) or Karato '942 (US 6,602,942) or JP '971 (JP 2001-213971).

Claims 1-8 have been cancelled herein, which renders this rejection moot.

2) Claims 1-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yanagisawa et al. '006 or Karato '942 or JP '971.

Applicants respectfully traverse. Reconsideration and withdrawal of this rejection are respectfully requested based on the following considerations.

The Present Invention

An object of the present invention is to provide a production method of a silica-containing rubber composition. The present invention is characterized by making a moisture content of slurry of silica-containing rubber crumbs obtained by coagulating a mixture of rubber latex and silica to be a predetermined value or less by filtering, then dehydrating the same by using a specific dehydrator, and drying.

Namely, some of the features of the present invention are:

(C) filtering the silica-containing rubber crumbs so as to have a moisture content of 40 wt% or more to 80 wt% or less;

(D) dehydrating said filtered rubber crumbs by using an extruding machine having a barrel provided with a screw therein and having a compression function after temporarily making an inner pressure of the barrel of said extruding machine higher than that at a normal operation; and

(E) drying said dehydrated rubber crumbs.

Distinctions over the Cited References

Turning first to Yanagisawa et al. '006, the Examiner relies on paragraph [0045] to disclose that the water content of the master batch before drying is preferably 10% or more. Furthermore, Yanagisawa et al. '006 disclose that the batch is dehydrated until the water content is reduced to about 40% (paragraph [0094]). Then, the dehydrated master batch from the

coagulation step is subjected to a drying step, which is conducted by a band dryer method or a twin-screw kneading method (paragraph [0096]).

However, Yanagisawa et al. '006 fail to teach step (C) of the present invention, i.e., filtering the silica-containing rubber crumbs so as to have a moisture content of 40 wt% or more to 80 wt% or less.

Turning to Karato '942, the reference discloses that the wet crumb is dehydrated to a moisture content of 35 to 60% by weight (col. 9, lines 42-49). However, this crumb contains no silica. Thus, Karato '942 is entirely different from the present invention wherein the rubber crumbs contain silica.

Finally, with respect to all three cited references, all of them disclose dehydration of a crumb by compression with an extruder. However, none of the cited references disclose the step of dehydrating the rubber crumbs by using an extruding machine having a barrel provided with a screw therein and having a compression function after temporarily making an inner pressure of the barrel of said extruding machine higher than that at a normal operation.

To establish a *prima facie* case of obviousness of a claimed invention, all of the claim limitations must be disclosed by the cited references. As discussed above, Yanagisawa et al. '006, Karato '942, and JP '971 fail to disclose all of the claim limitations of independent claim 9, and those claims dependent thereon. Accordingly, the references, either alone or in combination, do not render the present invention obvious. Furthermore, the cited references or the knowledge in the art provide no reason or rationale that would allow one of ordinary skill in the art to arrive at the present invention as claimed. Therefore, a *prima facie* case of obviousness has not been established, and withdrawal of the outstanding rejection is respectfully requested. Any contentions of the USPTO to the contrary must be reconsidered at present.

CONCLUSION

A full and complete response has been made to all issues as cited in the Office Action. Applicants have taken substantial steps in efforts to advance prosecution of the present application. Thus, Applicants respectfully request that a timely Notice of Allowance issue for the present case clearly indicating that each of claims 9 and 12-16 are allowed and patentable under the provisions of title 35 of the United States Code.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Chad M. Rink, Reg. No. 58,258 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By 

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